

FORM PTO/SB/150 (REV. 9-2001)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER 7407879-052490	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	
				10/070700 To be assigned	
INTERNATIONAL APPLICATION NO. PCT/GB00/03413		INTERNATIONAL FILING DATE 7 September 2000		PRIORITY DATE CLAIMED 7 September 1999	
TITLE OF INVENTION WEB GUIDANCE SYSTEM					
APPLICANT(S) FOR DO/EO/US HAMILTON, Sheila and KENNET, Charles Jonathan					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). a. <input checked="" type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).					
Items 11 to 20 below concern document(s) or information included:					
11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 14. <input checked="" type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A change of power of attorney and/or address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825. 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 20. <input checked="" type="checkbox"/> Other items or information:					
Form 1449 (1 pg.); PCT/IB/301 with Annex (3 pp.); PCT/IB/304 (1 pg.); PCT/ISA/220 with Notes (3 pp.); PCT/ISA/210 with Annex (3 pp.); PCT/IB/308 (2 pp.); PCT/IB/332 (1 pg.); Form PCT/IPEA/409 (1 pp.); Cover Sheet, Sheets 1-2 and Separate Sheets 1-4; Express Mail Certificate - Label No. EL565098356US (1 pg.); and Return Receipt Postcard.					

U.S. APPLICATION NO. (If known, see 37 CFR 1.53) To be assigned 107070700		INTERNATIONAL APPLICATION NO. /GB00/03413		ATTORNEY'S DOCKET NUMBER 740789-052490	
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21. <input checked="" type="checkbox"/> The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. \$1040.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 ENTER APPROPRIATE BASIC FEE AMOUNT =				CALCULATIONS PTO USE ONLY <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"></td> <td style="width:50%; text-align: right;">\$ 890.00</td> </tr> <tr> <td>Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).</td> <td style="text-align: right;">\$</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">CLAIMS</td> <td style="width:33%;">NUMBER FILED</td> <td style="width:33%;">NUMBER EXTRA</td> <td style="width:33%;">RATE</td> <td style="width:33%;">\$</td> </tr> <tr> <td>Total claims</td> <td>9 - 20 =</td> <td>0</td> <td>x \$18.00</td> <td style="text-align: right;">\$ 0.00</td> </tr> <tr> <td>Independent claims</td> <td>1 - 3 =</td> <td>0</td> <td>x \$84.00</td> <td style="text-align: right;">\$ 0.00</td> </tr> <tr> <td colspan="4">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td style="text-align: right;">\$ 0.00</td> </tr> <tr> <td colspan="4">TOTAL OF ABOVE CALCULATIONS =</td> <td style="text-align: right;">\$ 890.00</td> </tr> </table> <div style="margin-top: 5px;"> <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. + \$ 445.00 </div> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;"> SUBTOTAL = Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)). </td> <td style="width:40%; text-align: right;">\$ 445.00</td> </tr> <tr> <td>TOTAL NATIONAL FEE =</td> <td style="text-align: right;">\$ 445.00</td> </tr> <tr> <td> Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property + </td> <td style="text-align: right;">\$</td> </tr> <tr> <td>TOTAL FEES ENCLOSED =</td> <td style="text-align: right;">\$ 445.00</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:70%;"></td> <td style="width:30%; text-align: right;">Amount to be refunded: \$</td> </tr> <tr> <td></td> <td style="text-align: right;">charged: \$</td> </tr> </table>			\$ 890.00	Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	\$	CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$	Total claims	9 - 20 =	0	x \$18.00	\$ 0.00	Independent claims	1 - 3 =	0	x \$84.00	\$ 0.00	MULTIPLE DEPENDENT CLAIM(S) (if applicable)				\$ 0.00	TOTAL OF ABOVE CALCULATIONS =				\$ 890.00	SUBTOTAL = Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).	\$ 445.00	TOTAL NATIONAL FEE =	\$ 445.00	Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +	\$	TOTAL FEES ENCLOSED =	\$ 445.00		Amount to be refunded: \$		charged: \$
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a. ☒ A check in the amount of \$ 445.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0850. A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

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 NAME

34,235 / 48,502
 REGISTRATION NUMBER

JC19 Rec'd PCT/PTO 07 MAR 2002

- 1 -

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Sheila Hamilton and Charles Jonathan Kennett
: Art Unit
Serial No: : Examiner
International Application No : PCT/GB00/03413
International Filing Date : 7 September 2000
Filed: (herewith)
FOR: "Web Guidance System"

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington DC 20231

S I R:

Preliminary to examination in the United States Patent and Trademark Office, please make the following amendments in the above-identified application in order to place it in condition for examination.

IN THE SPECIFICATION:

Amend the specification by inserting before the first line the sentence:

This application is the US national phase application of PCT International Application No PCT/GB00/03413 filed September 7, 2000.

IN THE CLAIMS:

Please replace Claims 5, 6, 8 and 9 as follows:-

- 2 -

CLAIMS

5. (Amended) A web guidance system according to Claim 1, in which the or each cleaning roller is provided with a respective backup roller arranged to engage the cleaning roller and having a surface coated with a material having a degree of tackiness greater than that of the cleaning roller for removing particulates from the cleaning roller.

6. (Amended) A web guidance system according to Claim 1, in which the several rollers are mounted for rotation about parallel roller rotation axes in a common frame, the frame being rotatable about a frame rotation axis which is perpendicular to said roller rotation axes.

8. (Amended) A web guidance system according to Claim 1, in which cleaning takes place at an upstream side of the system.

9. (Amended) A web guidance system according to Claim 1 in which cleaning takes place at a downstream side of the system.

- 3 -

IN THE ABSTRACT

Please include an Abstract on a separate sheet as enclosed herewith.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'D. S. Resnick', written over a horizontal line.

David S Resnick, Reg No 34,235
Attorney for Applicant

Dated:

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- 4 -

ABSTRACT

A system (20) for handling a web (25) combines guiding and cleaning functions. A guiding roller (22) and upper and lower cleaning rollers (23A, 23B) are mounted in a frame (21) which can be rotated about an axis transverse to the rollers (22, 23A, 23B) to guide the web (25). Other combinations of guiding and cleaning rollers are disclosed.

- 5 -

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Specification at page 1, line 1:

This application is the US national phase application of PCT International Application No PCT/GB00/03413 filed September 7th, 2000.

IN THE CLAIMS:

5. (Amended) A web guidance system according to ~~any preceding claim~~ Claim 1, in which the or each cleaning roller is provided with a respective backup roller arranged to engage the cleaning roller and having a surface coated with a material having a degree of tackiness greater than that of the cleaning roller for removing particulates from the cleaning roller.

6. (Amended) A web guidance system according to ~~any preceding claim~~ Claim 1, in which the several rollers are mounted for rotation about parallel roller rotation axes in a common frame, the frame being rotatable about a frame rotation axis which is perpendicular to said roller rotation axes.

8. (Amended) A web guidance system according to ~~any preceding claim~~ Claim 1, in which cleaning takes place at an upstream side of the system.

9. (Amended) A web guidance system according to ~~any of claims 1 to 7~~ Claim 1, in which cleaning takes place at a downstream side of the system.

CLEAN COPY OF AMENDED CLAIM SET

CLAIMS

1. A web guidance system which incorporates web cleaning means, the system comprising at least one guiding roller controllable to effect guiding of the web, and at least a first cleaning roller having an outer surface coated with a material having a degree of tackiness capable of removing particulates from a surface of the web.
2. A web guidance system according to claim 1, including a second cleaning roller having an outer surface coated with a material having a degree of tackiness capable of removing particulates from the other surface of the web.
3. A web guidance system according to claim 2, in which one of the cleaning rollers constitutes the guiding roller.
4. A web guidance system according to claim 3, in which the cleaning roller which constitutes the guiding roller has a surface hardness greater than that of the other cleaning roller.
5. A web guidance system according to Claim 1, in which the or each cleaning roller is provided with a respective backup roller arranged to engage the cleaning roller and having a surface coated with a material having a degree of tackiness greater than that of the cleaning roller for removing particulates from the cleaning roller.
6. A web guidance system according to Claim 1, in which the several rollers are mounted for rotation about parallel roller rotation axes in a common frame, the frame being rotatable

about a frame rotation axis which is perpendicular to said roller rotation axes.

7. A web guidance system according to claim 6, including a feedback control loop which comprises an edge sensor for sensing the position of the web edge at a location downstream of the rollers, and an actuator arranged to rotate said frame about the frame rotation axis in response to the output of the edge sensor.

8. A web guidance system according to Claim 1, in which cleaning takes place at an upstream side of the system.

9. A web guidance system according to any of Claims 1, in which cleaning takes place at a downstream side of the system.

1 "Web Guidance System"

2

3 The present invention relates to a web guidance system
4 and in particular to a web guidance system capable of
5 web cleaning.

6

7 It is known in production processes to make use of webs
8 which require to be cleaned. Such webs are thin,
9 generally plastic materials and web guidance systems
10 are well known in the art. Webs are prone to run off
11 track easily and the web guidance systems are used to
12 keep the web on a desired track.

13

14 Web cleaning systems are also known in the art, these
15 cleaning systems being used to remove particulates from
16 at least one surface of the web.

17

18 In the past it has been the practice to use separate
19 web cleaning systems and web guidance systems. The
20 surface of a cleaning roller is formed of elastomeric

1 material which is compressible. This compressibility
2 means that when the web is placed in tension over the
3 cleaning roller the web can deviate from track, and
4 this factor has caused cleaning rollers to be thought
5 not to be suitable for use also as guidance rollers
6 which has inhibited the development or use of combined
7 cleaning/guidance systems. system can malfunction.

8
9 According to invention, there is provided a web
10 guidance system which incorporates web cleaning means,
11 the system comprising at least one guiding roller
12 controllable to effect guiding of the web, and at least
13 a first cleaning roller having an outer surface coated
14 with a material having a degree of tackiness capable of
15 removing particulates from a surface of the web.

16
17 The system may include a second cleaning roller having
18 an outer surface coated with a material having a degree
19 of tackiness capable of removing particulates from the
20 other surface of the web.

21
22 One of the cleaning rollers may constitute the guiding
23 roller.

24
25 Preferably, the cleaning roller which constitutes the
26 guiding roller has a surface hardness greater than that
27 of the other cleaning roller.

28
29 Preferably also, the or each cleaning roller is
30 provided with a respective backup roller arranged to
31 engage the cleaning roller and having a surface coated
32 with a material having a degree of tackiness greater

1 than that of the cleaning roller for removing
2 particulates from the cleaning roller.

3
4 In preferred embodiments, the several rollers are
5 mounted for rotation about parallel roller rotation
6 axes in a common frame, the frame being rotatable about
7 a frame rotation axis which is perpendicular to said
8 roller rotation axes; and the system suitably includes
9 a feedback control loop which comprises an edge sensor
10 for sensing the position of the web edge at a location
11 downstream of the rollers, and an actuator arranged to
12 rotate said frame about the frame rotation axis in
13 response to the output of the edge sensor.

14
15 Cleaning may take place at an upstream side or at a
16 downstream side of the system.

17
18 Embodiments of the present invention will now be
19 described, by way of example only, with reference to
20 the accompanying drawings, in which:

21
22 Fig. 1 is a schematic isometric view of a web
23 guidance system as known in the art;

24
25 Fig. 2 is a schematic isometric view of one
26 embodiment of the present invention; and

27
28 Figs. 3 to 9 are views similar to fig. 2 of
29 alternative embodiments of the invention.

30
31 Fig. 1 illustrates web guiding apparatus 10 as is known
32 in the art. The web guiding apparatus 10 comprises a

1 mounting plate 11 on which a first guiding roller 12
2 and a second guiding roller 13 are mounted for rotation
3 about spaced horizontal axes. A web 15 is placed in
4 tension over the first and second guiding rollers 12
5 and 13. The web guiding apparatus 10 further comprises
6 an edge sensor 14 for detecting the edge of the web and
7 ensuring that the web 15 is running on track. When the
8 sensor 14 detects that the web 15 is moving off track
9 then a suitable control system is activated. The
10 control system comprises a feedback loop 16A driving a
11 linear actuator 16 which is arranged to rotate the
12 mounting plate 11 about a central vertical axis. Thus,
13 the linear actuator 16 causes the axes of the guiding
14 rollers 12 and 13 to swivel in a horizontal plane, in
15 order to cause the web 15 to track in the desired
16 direction. The feedback loop 16A continues to operate
17 the linear actuator 16 until the sensor 14 detects that
18 the web 15 is in the desired location.

19

20 Referring to Fig. 2, there is illustrated one
21 embodiment of a web guidance system 20 in accordance
22 with the present invention, which includes web cleaning
23 apparatus for cleaning both the upper and lower
24 surfaces of the web 25. The system 20 comprises
25 mounting plates 21A and 21B adapted to mount an input
26 roller 22, an upper cleaning roller 23A, a lower
27 cleaning roller 23B, a first back-up roller 24A and a
28 second back-up roller 24B. The various rollers rotate
29 about parallel, horizontal axes, while the mounting
30 plates are mounted (by means not shown) to rotate about
31 a vertical axis at the midlength of the assembly.

32

1 The web 25 is fed over the input roller 22 then between
2 the upper and lower cleaning rollers 23A and 23B. The
3 web then passes an anti-static device 26, which removes
4 static built up through the system. An edge sensor 14,
5 feedback loop 16A and linear actuator 16 are provided
6 which operate as in the prior art system to keep the
7 web 25 on the desired track.

8
9 As will be evident, the lower cleaning roller 23B also
10 acts as a web guiding roller equivalent to the web
11 guiding roller 12 of the prior art design shown in
12 Fig. 1. In order for the web guidance aspect of this
13 embodiment to operate efficiently, the web 25 must be
14 in tension over the guiding roller 23B.

15
16 Normally, cleaning rollers, by their nature, are not as
17 hard as guiding rollers, because the cleaning rollers
18 generally use elastomeric materials and have a degree
19 of "give". This means that when the web 25 is put in
20 tension over the lower cleaning roller 23B, it is
21 compressed and the web guiding system may not operate
22 effectively.

23
24 However, in this present embodiment, the surface of the
25 lower cleaning roller 24B is harder than the surface of
26 the upper cleaning roller 23A. Therefore, the lower
27 cleaning roller 23B has less "give" than the upper
28 cleaning roller 23A thus allowing the guidance aspect
29 of the embodiment to function properly.

30
31 The web cleaning system operates in a manner that is
32 well known in the prior art, that is, having upper and

1 lower cleaning rollers 23A and 23B respectively, both
2 having first degrees of adhesive tackiness to remove
3 particulates from the upper and lower surfaces of the
4 web 25, respectively. These upper and lower cleaning
5 rollers 23A and 23B engage first and second back-up
6 rollers 24A and 24B, respectively. These first and
7 second back-up rollers 24A and 24B have second degrees
8 of adhesive tackiness for removing the particulates
9 from the upper and lower cleaning rollers 23A and 23B.

10
11 Alternative embodiments will now be described with
12 reference to Figs. 3 to 9. In these Figures like parts
13 are denoted by like reference numerals, and the anti-
14 static device 2 and the edge detector 14 and feedback
15 system 16, 16A have been omitted but operate as before.

16
17 In Fig. 3, a mounting plate 11 is pivoted on a support
18 30. Two rollers are rotatably carried by the mounting
19 plate 11: a cleaning roller 23A at the input side, and
20 a guiding roller 13 at the output side.

21
22 In Fig. 4, the mounting plate 11 carries guiding
23 rollers 12 and 13, the guiding roller 13 at the output
24 end having associated therewith a cleaning roller 23A
25 and adhesive backup roller 24A. Fig. 5 is similar, but
26 the cleaning roller 23A and backup roller 24A are
27 positioned at the input end.

28
29 The embodiments of Figs. 3 to 5 are therefore suitable
30 for cleaning only one side of the web. The embodiments
31 shown in Figs. 6 to 9 clean both sides of the web.

1 Fig. 6 is similar to Fig. 5, but the input end guiding
2 roller is replaced by a second cleaning roller 23B and
3 backup roller 24B.

4

5 Fig. 7 shows an arrangement in which the web 25 passes
6 through the system substantially linearly, supported by
7 non-steerable infeed and outfeed rollers 70 and 71.
8 Upper and lower cleaning rollers 23A and 23B and backup
9 rollers 24A and 24B are rotatably mounted, as shown
10 only schematically, on a carrier 72 to form an
11 assembly 73 which can be rotated about a vertical axis
12 on a base 74. The assembly 73 is rotated under
13 feedback control as before to correct the track of the
14 web.

15

16 Fig. 8 shows an assembly 73 similar to that of Fig. 7,
17 but mounted within a mounting plate 11 which also
18 carries guiding rollers 12 and 13. Fig. 9 is similar
19 functionally to Fig. 8, but the assembly 73 is secured
20 by readily accessible bolts 90 into a modified mounting
21 plate 91 such that the assembly 73 can readily be
22 removed and replaced in a modular manner.

23

24 Modifications and improvements may be made to the
25 foregoing within the scope of the present invention.

26

1 CLAIMS

2

3 1. A web guidance system which incorporates web
4 cleaning means, the system comprising at least one
5 guiding roller controllable to effect guiding of
6 the web, and at least a first cleaning roller
7 having an outer surface coated with a material
8 having a degree of tackiness capable of removing
9 particulates from a surface of the web.

10

11 2. A web guidance system according to claim 1,
12 including a second cleaning roller having an outer
13 surface coated with a material having a degree of
14 tackiness capable of removing particulates from
15 the other surface of the web.

16

17 3. A web guidance system according to claim 2, in
18 which one of the cleaning rollers constitutes the
19 guiding roller.

20

21 4. A web guidance system according to claim 3, in
22 which the cleaning roller which constitutes the
23 guiding roller has a surface hardness greater than
24 that of the other cleaning roller.

25

26 5. A web guidance system according to any preceding
27 claim, in which the or each cleaning roller is
28 provided with a respective backup roller arranged
29 to engage the cleaning roller and having a surface
30 coated with a material having a degree of
31 tackiness greater than that of the cleaning roller

- 1 for removing particulates from the cleaning
2 roller.
3
4 6. A web guidance system according to any preceding
5 claim, in which the several rollers are mounted
6 for rotation about parallel roller rotation axes
7 in a common frame, the frame being rotatable about
8 a frame rotation axis which is perpendicular to
9 said roller rotation axes.
10
11 7. A web guidance system according to claim 6,
12 including a feedback control loop which comprises
13 an edge sensor for sensing the position of the web
14 edge at a location downstream of the rollers, and
15 an actuator arranged to rotate said frame about
16 the frame rotation axis in response to the output
17 of the edge sensor.
18
19 8. A web guidance system according to any preceding
20 claim, in which cleaning takes place at an
21 upstream side of the system.
22
23 9. A web guidance system according to any of claims 1
24 to 7, in which cleaning takes place at a
25 downstream side of the system.

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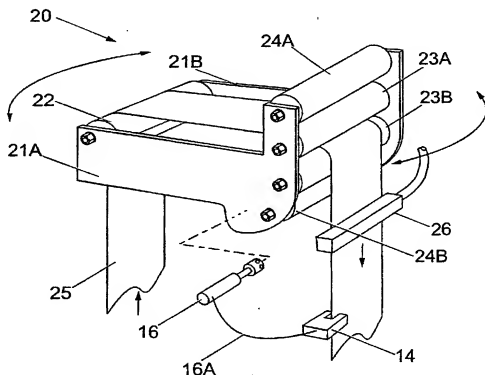
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[Continued on next page]

(54) Title: WEB GUIDANCE SYSTEM



(57) Abstract: A system (20) for handling a web (25) combines guiding and cleaning functions. A guiding roller (22) and upper and lower cleaning rollers (23A, 23B) are mounted in a frame (21) which can be rotated about an axis transverse to the rollers (22, 23A, 23B) to guide the web (25). Other combinations of guiding and cleaning rollers are disclosed.

WO 01/17882 A1



— Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

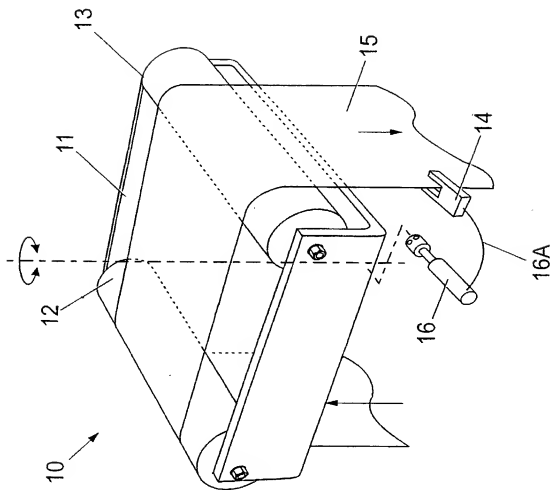


Fig. 1



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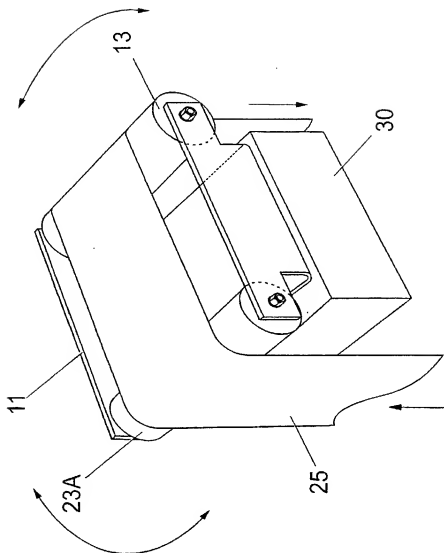


Fig. 3

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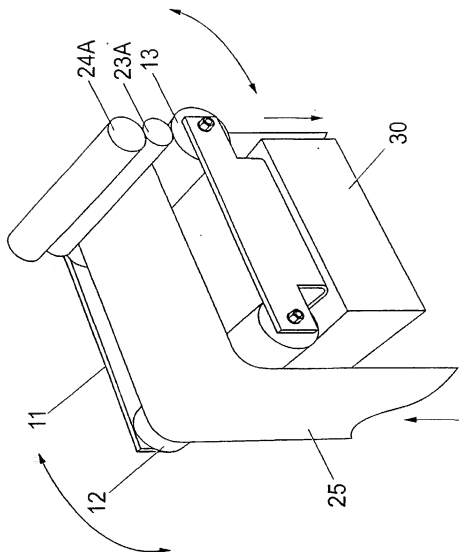


Fig. 4

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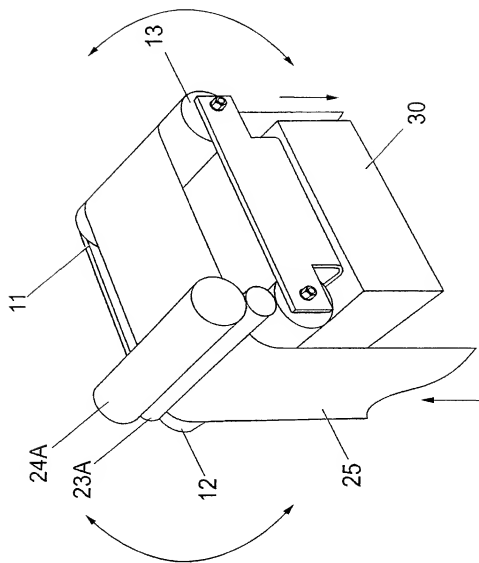


Fig. 5

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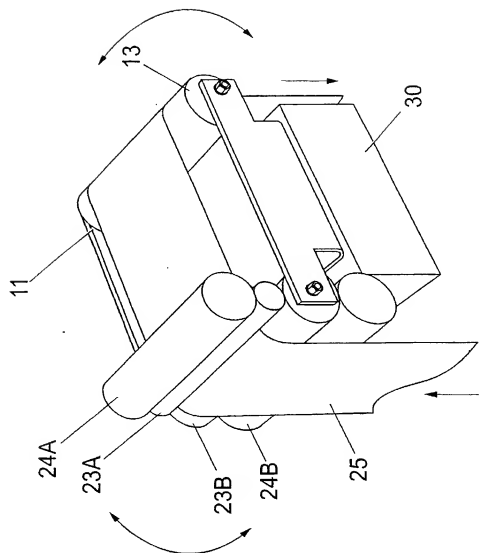


Fig. 6

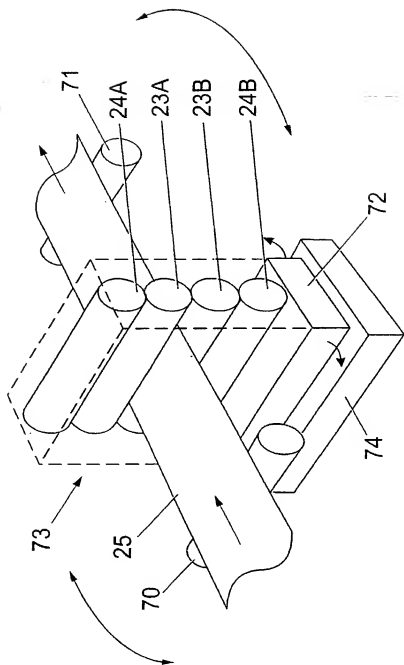


Fig. 7



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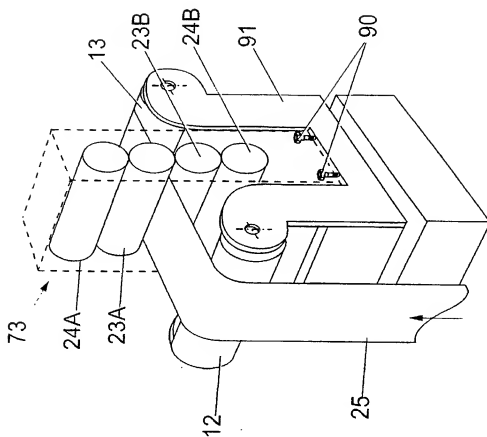


Fig. 9

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Page 1 of 4

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that: My residence, post office address and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor (if only one name is listed at 201) below or an original, first and joint inventor (if plural names are listed at 201-208 below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

"Web Guidance System"

which is described and claimed in:

- ☐ the specification attached hereto.
- ☒ the specification in International Application Number PCT/GB00/03413
filed on 7 September 2000; and

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a). I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign/PCT Applications and Any Priority Claims Under 35 U.S.C. §119:			
Application No.	Filing Date	Country	Priority Claimed under 35 U.S.C. §119?
9820973.6	7 September 1999	United Kingdom	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
0002996.7	10 February 2000	United Kingdom	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
PCT/GB 00/03413	7 September 2000	PCT	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below, and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose material information as defined in 37 CFR §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Prior U.S. Applications or PCT International Applications Designating the U.S.-Benefit under 35 U.S.C. §120					
U.S. Applications		Status (Check One)			
Application Serial No.	U.S. Filing Date	Patented	Pending	Abandoned	

PCT Applications Designating the U.S.					
Application No.	Filing Date	U.S. Serial No. Assigned			

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(35 U.S.C. §119(e))

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below:

<u>Applicant</u>	<u>Provisional Application Number</u>	<u>Filing Date</u>

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) with full powers of association, substitution and revocation to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

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Nicole L.M. Valls (Reg. No. 47,150)	Georgia Evans (Reg. No. 44,937)	Lisa A. Dolek (Reg. No. 33,591)
William T. French (Reg. No. 16,237)	Gunnar G. Leinberg (Reg. No. 35,584)	Edna V. Merkl (Reg. No. 40,087)
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1-00

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10070700 050702

I hereby further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signature of Inventor 201 <i>J. Keenest</i>	Date: <i>15th FEBRUARY 2002</i>
Signature of Inventor 202 <i>Sheila Hamilton</i>	Date: <i>15th FEBRUARY 2002</i>
Signature of Inventor 203	Date: